

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
OFFICE ENGINEER



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# **Style Guide for the 2010 Specifications**

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March 2009





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## CHANGE DIGEST

Changes to the *Style Guide* are summarized in the following table. Digest entries will be deleted after 6 months.

Version	Section	Change
Dec. 2008	7	Deleted <i>produce</i>
	9	Added <i>as directed by the Engineer</i>
	10	Changed from <i>force account work</i> to <i>change order work</i> Added clause for informational submittals Changed <i>Product Certificate</i> to certificate of compliance
	12	Changed guidance on section references Added a note to the guidance on incorporating specifications by reference
	13	Added "Do not included date" to <i>Universal Citation Guide</i> exceptions
	14	Deleted rule for capitalizing <i>paragraph</i> and <i>section</i>
	31	Added option for table numbers
	32	Changed RSS and SSP naming conventions Changed format of SSPs Changed RSS and SSP examples accordingly
	33	Added reasons for general sections Added guidance on 1st-level section headings
	34	Added guidance on file naming convention
Mar. 2009	2–33	Deleted section 2; implementation obvious by title of the guide Renumbered remaining sections
	6	Changed <i>permits</i> to <i>PLACs</i> in expressions to use with <i>provided in</i> and <i>provisions</i> Added <i>materials/products</i> in list of mandatory expressions. Added <i>Means'</i> definition of <i>material</i> . Relettered notes
	9	Changed <i>product</i> to <i>material</i> in reference to certificate of compliance
	12	Clarified law citation guidance
	13	Added rule for capitalization of <i>District</i>
	30	Clarified and added an example to table guidance Deleted if-then table. Plain language Web sites provide examples.
	31	Added guidance for NSSPs
	32	Added guidance for reserved sections
	33	Clarified 2006-2010 specification parallelism.

## 1 GENERAL

This guide provides instructions for specification writers contributing to the CA Department of Transportation's construction specifications.

This guide is based on information from several sources, including the *Federal Register's* writing guidelines, *The Chicago Manual of Style* (CMOS), Construction Specifications Institute (CSI), *AASHTO Guide Specifications for Highway Construction*, and the highway construction specifications of other states. These sources may be shown in parenthesis for your information.

The examples in this guide are models for style, not actual specifications.

Interpret each rule as if followed by *unless context and common sense dictate otherwise*. Do not follow a rule if clarity is reduced.

## 2 REFERENCE FOR GRAMMAR, USAGE, CAPITALIZATION, AND PUNCTUATION

For guidance not covered in this guide, follow the guidance provided in CMOS for grammar, usage, capitalization, and punctuation. CMOS's Web site has answers to many grammar, usage, capitalization, and punctuation questions. The *Style Guide* provides rules:

1. From CMOS that are not used in everyday writing.
2. Not covered in CMOS.
3. Contrary to the rules in CMOS (only a few of these). For the contrary rules, follow the rules in this guide.

Where the CMOS allows optional styles, choose the traditional style.

## 3 FEDERAL REGISTER'S WRITING GUIDE

Follow the principles in the *Federal Register's* Principles of Clear Writing, duplicated in part in this section. For additional explanations, go to:

<http://www.archives.gov/federal-register/write/legal-docs/clear-writing.html>

Bracketed text is text not in the *Federal Register's* Principles of Clear Writing. The following rule numbers correspond with the rule numbers in the *Federal Register's* guide.

### 1. Write in the active voice.

The passive voice is appropriate when the actor is unknown, unimportant, or obvious.

### 2. Use action verbs.

Don't say	Say
is applicable to	applies to
make payment	pay
give recognition to	recognize
is concerned with	concerns

### 3. Use *must* instead of *shall*.

shall	imposes an obligation to act, but may be confused with prediction of future action
will	predicts future action
must	imposes obligation, indicates a necessity to act
should	infers obligation, but not absolute necessity
may	indicates discretion to act

### 4. Be direct.

Talk directly to your readers. [In the Department's specifications, talk to the Contractor.] Use the imperative mood. [Also, use *you* and *your*.]

This style results in [specifications] that are shorter, crisper, and easier to understand.

## 5. Use the present tense.

A [specification] speaks as of the time you apply it, not as of the time you draft it.

## 6. Write positively.

If you can accurately express an idea either positively or negatively, express it positively. It's better to express even a negative in positive form.

Don't say	Say
did not comply with	failed to comply with
	violated

[Example: If you violate Pub Cont Code § 4100 et seq., the Department may exercise the remedies provided under Pub Cont Code § 4110.]

## 7. Avoid use of exceptions.

If possible, state a rule or category directly rather than describing that rule or category by stating its exceptions.

Don't say	Say
All persons except those 18 years or older must . . .	Each person under 18 years of age must . . .

[Use *section <section no.> applies to <x>* or *<Requirement description> applies to <x>* or introduce a requirement with *For <x>*.]

However, you may use an exception if it avoids a long and cumbersome list or elaborate description.

[If a specification has exceptions, do not use general phrases such as *except as otherwise specified* or *except as otherwise shown*. Instead, specify the particular items to which the specification does not apply.]

## 8. Avoid split infinitives.

The split infinitive offends many readers, so avoid it if you can.

Don't say	Say
Be sure to promptly <b>reply</b> to the invitation.	Be sure to <b>reply promptly</b> to the invitation. or Be sure <b>to reply</b> to the invitation <b>promptly</b> .

## 9. Use the singular noun rather than the plural noun.

To the extent your meaning allows, use a singular noun instead of a plural noun. You will avoid the problem of whether the rule applies separately to each member of a class or jointly to the class as a whole.

Don't say	Say
The guard will issue security badges to the employees who work in Building D and Building E.	The guard will issue a security badge to each employee who works in Building D and each employee who works in Building E.

[Exceptions:

1. Use plural nouns for headings and titles except existing ones.
2. If an existing bid item description is plural, use the plural form.]

## 10. Be consistent.

Don't use different words to denote the same thing. Don't use the same word to denote different things.

Don't say	Say
Each motor vehicle owner must register his or her car with the Automobile Division of the Metropolitan Police Department.	Each automobile owner must register his or her automobile with the Automobile Division of the Metropolitan Police Department.
The tank had a 200-gallon tank for fuel.	The tank had a 200-gallon fuel container.

### 11. Use parallel structure.

Arrange sentences so that parallel ideas look parallel. This is important when you use a list.

[The following example is from the *Federal Register's* writing guide except that the format of the lists has been changed to comply with the format described in this guide.]

#### Nonparallel construction:

The duties of the Executive Secretary of the Administrative Committee are:

1. To take minutes of all the meetings
2. The Executive Secretary answers all the correspondence
3. Writing of monthly reports

#### Parallel construction:

The duties of the Executive Secretary of the Administrative Committee are to:

1. Take minutes of all the meetings
2. Answer all the correspondence
3. Write the monthly reports

### 12. Prefer simple words.

[See "Preferred Expressions" of this guide and plain language Web sites such as [www.plainlanguage.gov](http://www.plainlanguage.gov) and [www.plainlanguagenetwork.org](http://www.plainlanguagenetwork.org).]

### 13. Omit needless words.

Don't say	Say
because of the fact that	because
for the period of	for
[highway right-of-way]	[highway]
[including, but not limited to]	[including]

### 14. Avoid redundancies.

Don't use word pairs, if the words have the same effect or where the meaning of one included the other.

Examples: Word pairs to avoid

any and all	full and complete
authorize and direct	order and direct
cease and desist	means and includes
each and every	necessary and desirable

### 15. Use concrete words.

Abstract words can be vague and open to different interpretations. [Use] simple, concrete words. [Be specific.]

Don't say	If you mean
vehicles	automobiles
firearms	rifles
aircraft	helicopters

**16. Don't use words that antagonize.**

[Not applicable to specification writing.]

**17. Avoid noun sandwiches.**

Administrative writing uses too many noun clusters — groups of nouns "sandwiched" together. Avoid these confusing constructions by using more prepositions.

Don't say	Say	[Or]
Underground mine worker safety protection procedures development	Development of underground procedures for the protection of the safety of mine workers	[Development of safety procedures for protecting workers underground.]

Which meaning is intended becomes clearer when this four-word sandwich is broken up.

**18. Don't use gender-specific terminology.**

[Exception: You may use gender-specific terminology if required to match industry-standard terminology or the law.]

**19. Write short sentences.**

**20. Make lists clear and logical in structure.**

[List by work sequence or most important to least important. If no logic, list alphabetically. Display a list of  $\pm 3$  items in a vertical list.]

**21. Use short paragraphs.**

A writer may improve the clarity of a [specification] by using short, compact paragraphs. Each paragraph should deal with a single, unified topic. Lengthy, complex, or technical discussions should be presented in a series of related paragraphs.



#### 4 BREVITY

Be as brief as possible without reducing clarity.

**Avoid prepositions.** But do not eliminate prepositions if noun sandwiches or nonparallel clauses or phrases are created as a result.

Don't say	Say
authority of the Engineer	Engineer's authority
drawings for falsework	falsework drawings

**Use elliptical clauses.**

Don't say	Say
For excusable delays that are not caused by weather, the Department pays your added costs.	For excusable delays not caused by weather, the Department pays your added costs.
If the Engineer determines that a claim is without merit, you may pursue the administrative claim procedure . . .	If the Engineer determines a claim is without merit, you may pursue the administrative claim procedure . . .

**Eliminate articles.** Except in sections 1 through 9, you may eliminate articles where not needed for clarity . Do not eliminate an article if it introduces ambiguity or reduces readability. When in doubt, leave it in.

Don't say	Say
Apply an oil paint with a brush.	Apply oil paint with brush.
Fasten the fabric to the posts.	Fasten fabric to posts.

**Avoid unnecessary qualifiers.** Examples:

actual  
all (except to differentiate between partial and whole quantities)  
any (except to specify a choice)  
existing (with remove, reconstruct, salvage, abandon, or obliterate)

**Avoid *respective* and *respectively*.**

Don't say	Say
Forms are listed under the names of their respective sections.	Forms are listed under the names of their corresponding sections.
The hat and the scarf must be blue and green, respectively.	The hat must be blue. The scarf must be green.

#### 5 INDUSTRY STANDARD

Use terms in prevalent use by other states and the construction industry. Do not use terms unique to the Department. Use of a unique term requires concurrence by the specification owner, Construction, and Legal.

#### 6 EXPRESSIONS

Use the following mandatory expressions for contractual integrity:

## Mandatory Expressions

Use	Do not use synonyms
accept (for an agreement to receive something as satisfactory)	approve, authorize, or certify (for an agreement to receive something as satisfactory)
approve (for COs and change order work bills)	accept, authorize, or certify (for COs and change order work bills)
authorize (for a sanctioning from the Engineer)	accept, approve, or certify (for a sanctioning from the Engineer)
certify (for plans) <sup>a</sup>	accept, approve, or authorize (for plans)
activity	operation
allow	permit
assign (as an action of the Contractor)	authorize designate
comply with	adhere to follow meet
described in (to refer to the specifications and the plans; to refer to the Contract)	indicated in
provided in (to refer to laws or PLACs)	
shown in (to refer to info in a table)	
shown on (to refer to drawing details or notes)	
specified in (to refer to specifications, including specifications such as ASTMs)	
document (for general paperwork, including records)	record (for general paperwork)
record (as a verb; as a noun if referring to paperwork containing recorded information)	document (as a verb; as a noun if referring to paperwork containing recorded information)
furnish (except for furnishing work documents and samples to the Engineer or Department)	give
submit (furnishing work documents and samples to the Engineer or Department)	
job site <sup>b</sup>	site project site contract site
keep <sup>c</sup> (except use <i>retain</i> for records)	retain
material <sup>d</sup>	product
may <sup>c</sup>	is authorized reserves the right to
notify	inform
obtain (except use <i>procure</i> for materials)	get procure secure
upon request	at the Engineer's request
order	direct
plant	facility
project (except use <i>job site</i> )	job
provisions (for laws and PLACs)	conditions
specifications (for specifications, including specifications such as ASTMs)	requirements
terms (for contracts not between the Department and the Contractor)	
quantity <sup>b</sup>	amount
request <sup>e</sup>	ask
section	subsection
start	begin commence
the, this, these, that, those (Use <i>the</i> unless it creates ambiguity.)	such
traffic	public traffic
under <sup>c</sup>	following pursuant to in conformance with
	meeting in accordance with under the provisions of
withhold	retain

<sup>a</sup>Bus & Prof Code 6735.5: The use of the word "certify" or "certification" by a registered professional engineer in the practice of professional engineering or land surveying constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification, and does not constitute a warranty or guarantee, either expressed or implied.

<sup>b</sup>Based on definition in *Means Illustrated Construction Dictionary*

<sup>c</sup>From Appendix B -- Preferred Expressions of the *Federal Register's* Drafting Legal Documents

<sup>d</sup>From *Means Illustrated Construction Dictionary*:

**material:** Any product or substance specified for use in the construction of a project.

<sup>e</sup>Reduced variation over simpler word

Use the following preferred expressions for consistency:

Preferred Expressions	
Use	Do not use synonyms
adjacent	next <sup>b</sup>
after <sup>a</sup>	subsequent to
after June 30 <sup>a</sup>	on or after July 1
before <sup>a</sup>	prior to
before July 1 <sup>a</sup>	no later than June 30
change	alter                      modify                      revise
complete	finish
end	terminate
enough <sup>a</sup>	adequate number of sufficient number of
except	excluding
for <sup>a</sup>	in the interest of with reference to
how <sup>a</sup>	the manner in which
if (except use <i>when</i> in reference to time and <i>where</i> in reference to location)	when                      in case <sup>a</sup> where                      in the event that <sup>a</sup> subject to
instead of <sup>a</sup>	in lieu of
is	considers (meaning <i>deems</i> ) deems
limits	parameters
on	upon (except use <i>upon</i> to introduce an event or condition)
possible	feasible
to	in order to
use <sup>a</sup>	utilize employ
way <sup>a</sup>	manner
when <sup>a</sup>	at the time
while <sup>a</sup>	during such time as

<sup>a</sup>From Appendix B -- Preferred Expressions of the *Federal Register's* Drafting Legal Documents

<sup>b</sup>Reduced variation over simpler word

If choosing a word not in this list, balance the following:

1. Use the most basic word.
2. If the most basic word has many definitions and if those definitions can cause confusion (i.e., definition is not obvious by context), use a more precise word.
3. Use industry-standard words.
4. If a law is referenced, use the words in the law (only the core words, not the legalese).

## 7 TERMS FOR ALTERATION AND REPAIR OF HIGHWAY FACILITIES

To	Write
Remove and dispose of	Remove
Render unserviceable, in place, by doing some kind of work	Abandon
Remove, clean, and haul to a specified location.	Salvage
Remove and install or place at same station location. May be moved laterally only. No alteration required.	Reset
Remove and install or place in a new location. No alteration required.	Relocate
Remove and disassemble and construct again at an existing or new location. New parts or alteration may or may not be required.	Reconstruct
Raise or lower a facility to match a new grade line. Generally associated with raising frames and grates or frames and covers of facilities on resurfacing projects. May require some removal. Includes raising or lowering of frames and covers or frames and grates of concrete or brick manholes or circular precast concrete pipe structures by adding or subtracting raising devices only. Any changes to taper of manhole or steps is "remodel."	Adjust
A change that does not affect the basic framework or structure with only an addition or subtraction to an appurtenant part. May require some removal. Includes raising or lowering frame and covers or frame and grate of drainage inlets by removing concrete or adding concrete.	Modify
Rebuild facility in same location. May require some removal.	Remodel
Remove and lay in an existing or new location. Generally used for pipes or culverts and appurtenances.	Relay

NOTE: The terms and definitions in this table are from the *RTL Guide*.

## 8 SPECIFICATION DUPLICATION

Do not include specifications covered by other specifications. Examples:

No need for	Reason
as shown on the plans; as specified in the special provisions at the option of the Contractor	These are part of the Contract. From the <i>Standard Specifications</i> : "If not described in the Contract, choose the means and methods to complete the work." (If you specify a minimum or maximum value, it is the Contractor's choice to use anything greater or less. The addition of <i>as authorized by the Engineer</i> creates an ambiguous specification.)
Authorization or certification of the <item needing authorization or certification> is contingent on the <item needing authorization or certification> being satisfactory to the railroad company involved.	The contract is between the Department and the Contractor. Third-party contingencies are irrelevant to the Contract.
by the Engineer (for orders, authorizations, certifications, and requests to the Contractor)	Section 5 of the <i>Standard Specifications</i> specifies that orders, authorizations, certifications, and requests to the Contractor are by the Engineer
Driving equipment that damages piling shall not be used; provided driving does not injure the posts; and similar "do not use methods or equipment that damage the work" clauses.	covered by Maintenance and Protection and Payment Scope in sections 5 and 9 of the <i>Standard Specifications</i>
in writing (for Department authorizations, approvals, certifications, notifications, and orders and for Contractor assignments, notifications, proposals, reports, requests, subcontracts, and test results)	Section 5 of the <i>Standard Specifications</i> specifies that these items are in writing.

Prior to closing a roadway to traffic to accommodate bridge removal operations, the Contractor shall have all necessary workers, materials, and equipment at the site as needed to proceed with the removal work in an expeditious manner. While the roadway is closed to public traffic, work shall be pursued promptly and without interruption until the roadway is reopened to public traffic.	covered by Public Convenience in Section 7 of the <i>Standard Specifications</i>
satisfactory to the Engineer, as determined by the Engineer, and similar phrases and clauses	covered by Engineer's Authority in section 5 of the <i>Standard Specifications</i>
specifying what happens if the Engineer fails to do something within a specified time	covered by delay definitions and delay specifications in sections 1 and 8 of the <i>Standard Specifications</i>
to the Engineer (for submittals and requests from the Contractor)	Section 5 of the <i>Standard Specifications</i> tells the Contractor to submit documents and direct questions to the Engineer.
unless otherwise permitted by the Engineer on approval of the Engineer if authorized by the Engineer as ordered by the Engineer as directed by the Engineer	Ambiguous. Section 4 of the <i>Standard Specifications</i> covers how changes are made.
The Engineer's review and approval shall not waive any contract requirements and shall not relieve the Contractor from complying with federal, State and local laws, regulations, and requirements.	Section 5 of the <i>Standard Specifications</i> : "The Engineer's certification does not void any Contract part."
<Work description> includes furnishing materials.	Section 5 of the <i>Standard Specifications</i> : "Furnish the resources, except Department-furnished materials, required to complete the work under the Contract."

## 9 COMMON CLAUSES AND PHRASES

Use these common clauses and phrases.

To	Write
describe work to be paid for by force account or agreed price <sup>a</sup>	<Work description> is change order work.
say the Department does not pay for something (Do not use for optional use of materials or equipment or for samples. See Payment Scope of the <i>Standard Specifications</i> for what the Department pays for.)	The Department does not pay for < >. The Department does not adjust payment for < >. [Do not use <i>at no additional cost to the Department</i> or <i>at the Contractor's expense</i> .]
say one specification does not relieve the Contractor of the responsibilities in another specification	< > does not void < >.
direct the Contractor to dispose of materials	Dispose of <the material>.
direct the Contractor to submit a certificate of compliance	Submit a certificate of compliance for <material>.

submit documents to someone other than the Engineer	Submit <document> to <location>. Notify the Engineer of the submittal. Include in the notification the date and contents of the submittal.
submit an informational submittal not specified as an informational submittal in section 5	Submit <document> as an informational submittal.
submit shop drawings to the Engineer signed by a registered civil engineer	Submit shop drawings.
submit shop drawings signed by a registered civil engineer to Structure Design	Submit shop drawings to Structure Design.
submit shop drawings signed by a registered mechanical or electrical engineer to the Engineer	Submit shop drawings sealed and signed by an engineer registered as a(n) < > engineer in the State.
submit shop drawings signed by a registered mechanical or electrical to someone other than the Engineer	Submit shop drawings sealed and signed by an engineer registered as a[n] < > engineer in the State to <location>. Notify the Engineer of the submittal. Include in the notification the date and contents of the submittal.

<sup>a</sup>From *Means Illustrated Construction Dictionary*:

**extra work:** Any work, desired or performed, but not included in the original contract.

**force account:** Work ordered on a construction project without an existing agreement on its cost, and performed with the understanding that the contractor will bill the owner according to the cost of labor, materials, and equipment, plus a certain percentage for overhead and profit.

## 10 PAYMENT CLAUSES

Section 9 of the *Standard Specifications* refers to the Bid Item List for bid items and measurement units.

### Sections 1–9

To	Write
describe measurement for payment	The Department measures <how the Department measures>.
describe payment	The Department pays for <what the Department pays for>.
charge the Contractor for something	The Department deducts <these charges; the cost of this work; the cost of <modifier> work>.

### Sections other than Sections 1–9

To	Write
describe measurement for payment	<Bid item> is measured <description of measuring basis (e.g., from end to end, along the center line)>.
describe measurement for one item in the same manner as another	<Bid item> is measured as specified for <item mimicked>.
pay for one item as another (aka transfer pay clause)	<Item> is paid for as <bid item>.
include payment for one item in another (aka full payment clause)	Payment for <item to be included> is included in payment for <bid item>.
charge the Contractor for something	<These charges; the cost of this work; the cost of <modifier> work> is deducted.

NOTE: Passive voice is appropriate because section 9 defines who measures and pays.

## 11 REFERENCES

To specify	Use	Example
A section must comply with a another section	Comply with section <section no.>.	Comply with section 52.
An item must comply with a specification	<Item> must comply with <section <section no.>, ASTM, etc.>. <sup>a</sup>	High-strength bolted connections must comply with section 55-3.14. Calcium chloride must comply with ASTM D 98.
An item must comply with a specific part of a specification	<Item> must comply with the <material> specifications <for <referenced item>> in<section no., ASTM, etc.>. <sup>a</sup>	Anchorage devices must comply with the specifications for concrete anchorage devices in section 75-1.03. Corrugated aluminum pipe inlets must comply with the material specifications in section 70-1.02A.
Work must be performed following a specification or a law	<Furnish, handle, place, test> under <section <section no.>, ASTM, law, etc.>. <sup>a</sup>	Handle rock core samples under ASTM D 5079.
A reference to a Web site	For <Item> go to: <Web address>  Submit <item> with <form name>. For the form go to: <Web address>  For <item>, go to <Web site owner> Web site. (Do not add <i>Electronic copies of</i> to the name of the item. Except in sections 1–9, do not specify Web site addresses in the <i>Standard Specifications</i> . Use Indent 1 Hanging for the address line. Do not add a space before or after the address. Provide only base addresses.)	For a current list of debarred contractors go to: <a href="http://www.dir.ca.gov">http://www.dir.ca.gov</a> Submit your request on a <i>Request for Contractor Staking</i> form. For the form, go to: <a href="http://cef.dot.ca.gov">http://cef.dot.ca.gov</a> For a detailed map, go to the Department's Pavement Web site.

<sup>a</sup>If the referenced specification is a particular section of a specification incorporated by reference, add the section title: <section <section no.>, chapter <chapter no.>, etc.>, "<title of section, chapter, etc.>."

Do not use *attention is directed to* or similar phrases; use direct references for required references.

Do not use *in this section, specified herein*, or similar phrases. Be specific and provide section number.

Use spacing as specified by the referenced organization. For an ASTM or AASHTO reference, add a space between the letter designation and the number. For a federal or military specification, do not add the letter or number-letter combination that indicates the version. Examples:

ASTM A 706/A 706M  
AASHTO M 314

MIL-P-236  
Federal Specification TT-S-230

Refer to forms by form names. Do not include form numbers.

## 12 LAW CITATION

Include a law if the law:

1. States that it must be stipulated in the Contract.
2. Provides options and the Department has chosen to specify one of the options.
3. Provides rules but does not designate the responsibilities of each party.
4. Designates responsibilities to the Department, and the Department requires the Contractor to act such that the Department is in compliance with the law.

5. Is not widely known in the construction industry. Provide only enough information to alert the bidders to the basic requirements to be met. (Do not cite laws that may be imposed on contractors by other agencies for the purpose of running a business, having employees, owning vehicles, and protecting the public. Contractors are expected to know these laws.)
6. Involves a penalty collected by the Department.

If a reference is not required and is added only as an aid, make it parenthetical. Example: The Contractor must be properly licensed at the time the contract is awarded (Pub Cont Code § 10164).

If a law must be included in the Contract, use exact words only if required by the law.

Use the citation format described in the *Universal Citation Guide*. For the guide, go to:

<http://www.aallnet.org/committee/citation/ucg/>

Exceptions to *Universal Citation Guide* format:

1. Do not include the name of the act unless it is needed for clarity.
2. Do not include CA because the *Standard Specifications* specifies that a referenced law is a CA law unless specified as a federal law (exception: CA Code of Regs).
3. Do not italicize.
4. Do not include the date.

#### **General Law Citation Abbreviations**

Amendment	Amend
Article	Art
Chapter	Ch
Clause	Cl
Paragraph	Para
Part	Pt
Section	§
Volume	Vol

#### **Federal Law Abbreviations**

United States Code	USC
Code of Federal Regulations	CFR

#### **CA Statute Abbreviations**

Business and Professions	Bus & Prof Code
Civil	Civ Code
Civil Procedure	Civ Pro Code
Commercial	Com Code
Corporations	Corp Code
Financial	Fin Code
Fish and game	Fish & Game Code
Food and Agricultural	Food & Agri Code
Government	Govt Code
Harbors and Navigation	Harb & Nav Code
Health and Safety	Health & Safety Code
Insurance	Ins Code
Labor	Labor Code
Military and Veterans	Mil & Vet Code
Public Contract	Pub Cont Code
Public Resources	Pub Res Code
Public Utilities	Pub Util Code
Streets and Highways	St & Hwy Code
Vehicle	Veh Code

#### **CA Regulation Abbreviations**

CA Code of Regulations	CA Code of Regs
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Other abbreviations can be found in Appendix C of the *Universal Citation Guide*.

For a CFR, do not include the section symbol.

Examples:

Reference	Citation meaning
The purpose of this form is to collect data required under 49 CFR 26.	Title 49 of the Code of Federal Regulations, Part 26
Under 49 CFR 26.13(b)	Title 49 of the Code of Federal Regulations, Section 26.13(b)
29 USC § 201 et seq. applies to this Contract.	Title 29 of the United States Code, Section 201 and the following
The State makes the partial payments under Pub Cont Code § 10264.	California Public Contract Code, Section 10264

### 13 PUNCTUATION AND TYPOGRAPHY

#### 13-1 CAPITALIZATION

Capitalize the following terms where used as defined in the *Standard Specifications*:

Bid Item List  
Contract  
Contractor

Department  
Engineer  
State

Structure Design  
Transportation Laboratory

Capitalize *the Bidder*. Do not capitalize *a bidder*.

Capitalize the following terms:

Type

Class

Grade

Capitalize each main word of a form name.

Capitalize *District* where used with a number.

Use ALL CAPS for 1st- and 2nd-level headings.

#### 13-2 COMMAS

Use the serial comma (CMOS 6.19).

Use only technically necessary commas; do not use a comma just to indicate a pause.

#### 13-3 EMPHASIS

Use bold type only for table titles, headings, and definitions.

Do not use bold, caps, underlining, quotation marks, or italics for emphasis.

#### 13-4 FONT

Use Arial 10 point.

For a punctuation mark between roman and italic text, use the font of the main or surrounding text (CMOS 6.3).

#### 13-5 HYPHENS

Do not use nonbreaking hyphens. (This rule simplifies term searches.)

### 13-6 PARENTHESES

Use parentheses for only:

1. Law citation references
2. Abbreviations

Do not enclose in parentheses information essential to the specification. For example, do not use parentheses as shown in the following sentence:

Training is allowed in lower-level-management positions (such as office engineers, estimators, and timekeepers) if the training is oriented toward construction applications.

### 13-7 QUOTATION MARKS

Use straight quotation marks (because they are built into the Normal template).

### 13-8 SPACES

Use 1 space after each period and colon (CMOS 2.12).

Use 2 spaces between a heading number and name.

Do not use nonbreaking spaces. (This rule simplifies term searches.)

## 14 ABBREVIATIONS

Use an abbreviation if it is either of the following:

1. Shown in:
  - 1.1. Section 1 of the *Standard Specifications*
  - 1.2. Appendix C of NIST Handbook 44
  - 1.3. Collegiate dictionary
2. More familiar to the reader than its spelled-out form

Exceptions:

1. Do not use an abbreviation with a superscript.
2. Do not use *min* except in tables
3. If in doubt about the familiarity of the abbreviation to the reader, define the abbreviation.

Except as previously provided, avoid abbreviations (CSI); however, you may use an abbreviation if the abbreviation is in a referenced standard.

You may use a Department-unique abbreviation only if it is used 3 or more times; but do not use an abbreviation if only a few letters are eliminated. For example, QC is defined, and only 6 letters are eliminated by using QCM instead of QC manager; therefore, do not use QCM.

Avoid using an abbreviation in a heading.

Use abbreviations in tables where practical.

In the *Standard Specifications*, define Department-unique abbreviations in section 1.

In a special provision, define an abbreviation at its 1st occurrence (CMOS 15.2).

## 15 DEFINITIONS

Define a term:

1. Not industry standard
2. With multiple meanings and the term can reasonably be interpreted multiple ways

If the term is defined in a *Means Illustrated Construction Dictionary*, do not define it.

Avoid using the term being defined in its definition.

Avoid beginning a definition with an article.

List definitions in alphabetical order.

Capitalize the term only if it is capitalized in the text. Begin the definition with a capital letter. (CMOS 2.28)

End each definition with a period.

Use bold type for the word being defined.

Use a colon followed by 1 space between the word being defined and the definition.

Use Hanging (definition) style.

Example:

**signal head:** Assembly containing 1 or more signal faces.

## 16 SYMBOLS

Use keyboard symbols. If you need additional symbols, use the command *insert symbol*.

In addition to numerals, punctuation marks, and mathematical signs and symbols, use the following symbols in text:

§                      & (in law citations, e.g., Mil & Vet Code)                      §

Use symbols in tables where practical.

## 17 NUMBERS

Use numerals for quantities, sizes, measurements, and similar entities. Exceptions:

1. Use a word at the beginning of a sentence.
2. If numbers are used to define both size and quantity, use a word for the quantity (three 1/2-inch holes; not 3 1/2-inch holes).
3. Use million and billion.

Use arabic numerals unless roman numerals are used in a referenced document or detail; in which case, match the document or detail.

Use ordinal numerals where possible. For example, 1st, 2nd, 23rd; not first, second, twenty-third; 2nd paragraph; not paragraph 2. Exception: Use Para x for SSP instructions. Do not use superscripts. (Make sure Microsoft Word is not set to automatically superscript.)

Use a 0 in the unit place of a number less than 1 (0.2; not .2).

Use commas (not spaces) in numerals containing 4 or more digits (CMOS 9.22).

Do not add a space between -, +, or ± and its associated numeral when these signs are used to modify the numeral rather than combine 2 numerals (CMOS 14.14).

## 18 DIMENSIONS

Do not repeat measurement unit (e.g., 2 by 4 inches; not 2 inches by 4 inches).

Use *by* for dimensions 2 by 4 inches, not 2 x 4 inches (CSI).

## 19 EQUATIONS

Introduce an equation as you would a list.

Use the letter x for a multiplication sign.

Use a slash for a division sign.

Use a space before and a space after a mathematical sign except a division sign.

Avoid the use of sub- and superscript fonts.

You may use a simple equation within text. You may use words to write a simple equation. Use sum, difference, product, and quotient instead of using mathematical operators.

Display more complicated equations on a separate line clear of text.

Italicize variables.

Introduce the variables with *where* followed by a colon.

Define the variables.

Use Indent 1 Hanging style.

Example:

Use the following equation to calculate the air-dry weight:

$$W = (A \times 62.3)/(B - C)$$

where:

*W* = air-dry weight, lb/cu ft

*A* = 90-day weight of the cylinder as dried, lb

*B* = saturated, surface-dry weight of cylinder, lb

*C* = suspended-immersed weight of cylinder, lb

Avoid using Microsoft Word's Equation Editor. If you must use Equation Editor, perform the command *Unlink Fields* to convert the equation into text format.

## 20 CHEMICALS

Use chemical names; avoid using chemical formulas.

## 21 FRACTIONS

Do not use super- and subscript fonts (1-1/2, not 1<sup>1/2</sup>) (CSI).

## 22 MEASUREMENTS

Use an abbreviation instead of a word where used with a number. Exceptions (CSI):

1. Spell out *feet* where *inches* are not used (8 feet).
2. Spell out *inches* where *feet* are not used (8 inches).
3. Where *feet* and *inches* are both used, use symbols (8'-8" or 8'-2-1/2").
4. Spell out time measurements (year, hour).

Exception: You may use ft for foot or feet and in for inch or inches in nonheading table cells.

Use a space between a number and an abbreviation (CMOS 7.90).

Use a hyphen between a number and an unabbreviated measurement unit if the unit is an adjective before a noun. Use a space if the unit is after a noun.

Use a hyphen between combination measurements (8'-2") (CSI).

In measurement abbreviations, omit periods (NIST).

For temperatures, use *degrees* in text (CSI) and the degree symbol in tables. Use a space between the numeral and the degree symbol (NIST).

In text: 72 degrees F    22 degrees C

In tables: 72 °F   22 °C

Use military time for traffic operations; otherwise, use civilian time (agreement with Traffic).

For civilian time, use midnight and noon instead of 12:00 p.m. and 12:00 a.m.

Examples from CMOS 9.42 through 9.44:

Civilian	Military
11:00 p.m.	2300
noon	1200
midnight	2400 or 0000
12:01 a.m.	0001
2:38 p.m.	1438

For periods not dependent on weather (submittals, notifications, review times, etc.), use days or business days, not working days.

Use one of the following:

1. *Days* for specifying periods over 5 days
2. *Business days* if specifying periods 5 days or less

Do not specify time periods in weeks or months.

Use 7 days for 1 week; 15 days for 2 weeks; 5-day increments for over 15 days. For technically related time periods, this rule does not apply if precision is needed (curing periods).

## 23 PERCENTAGES

Do not repeat *percent* in ranges and tolerances.

Don't say	Say
2 percent to 4 percent	2 to 4 percent
3 percent $\pm$ 1 percent	3 $\pm$ 1 percent

## 24 ADDRESSES

Follow USPS recommendations.

Format	Example
Mailstop Code Attention Line Business/Firm Name Delivery Address Line City, State, ZIP + 4	MSC 43 OFFICE ENGINEER DEPARTMENT OF TRANSPORTATION 1727 30TH ST SACRAMENTO CA 95816-7005

## 25 PHONE NUMBERS

(area code) space xxx hyphen xxxx (CMOS 6.82)

## 26 RANGES

In text, indicate a range that includes the endpoints by using the words *from* and *to*. Do not repeat the measurement unit. Do not use *between* unless you mean *between*.

Example:

Don't say	Say
80 degrees F to 90 degrees F	from 80 to 90 degrees F

In tables, indicate a range by using an en dash.

## 27 SLOPES

Show slopes like this: 2:1 (horizontal:vertical)

## 28 TOLERANCES

For tolerances, add a space on each side of  $\pm$  (CMOS 14.58).

Example: 4.2  $\pm$  0.1 inches

## 29 LISTS

Avoid using *the following* in the introduction to an inclusive list.

Example:

Don't say	Say
Miscellaneous metal consists of the following:	Miscellaneous metal consists of:

Capitalize the first word of each item in a list.

Use a period at the end of each item in a list if an item is a complete sentence.

All items in a list apply unless the items are specified as choices (section 1 of the *Standard Specifications*); therefore, if the list is not inclusive add *one of the following*, *either of the following*, *any of the following*, or other phrase that specifies how the items apply.

Avoid beginning items in a list with articles; avoid ending the introduction to a list with an article. Although they may be needed to make a grammatically correct statement, *a*, *an*, and *the* are often not needed in lists. Lists with or without the articles provide the same information, but the lists are crisper without the articles.

Don't say		Say	
Bring:	Bring a:	Bring:	
1. A pen	1. Pen	1. Pen	
2. A pencil	2. Pencil	2. Pencil	
3. A calculator	3. Calculator	3. Calculator	

Space and number lists as shown in the following example:

Specification writing requires:

1. Familiarity with:
  - 1.1. Material properties
  - 1.2. Construction procedures
2. Knowledge of contract law
3. Proficiency in English because using words incorrectly:
  - 3.1. Creates confusion
  - 3.2. Costs time and money
  - 3.3. Reflects poorly on the Department
4. Mastery of punctuation

### 30 TABLES

Display tabular work as shown the table titled "Table Parts." If you are referring to a table from somewhere other than the introduction, refer to it by its title; e.g., shown in the table titled "Table Parts."

**Table Parts<sup>a</sup>**

Column heading	Column heading	Column heading	
		Column subheading	Column subheading
Row heading <sup>b</sup> Subheading	This entry is an overrun entry.		
Row heading			--

NOTE: A general note applies to the table as a whole.

<sup>a</sup>Optional. Add a table number to the table title if it clarifies references and refer to the table number instead of the title: Table 1 Table Parts.

<sup>b</sup>Use alphabetic superscripts to reference notes to specific table elements.

Use 1/2 point gridlines between cells.

Make the table no wider than the paragraph width. Horizontally center the table on the page.

Center 2 hyphens in a cell with no data.

Add a line space before and after the table. If the style of the text before the table is Normal, do not add a space because a space after the paragraph is built into the style Normal.

Example:

If the Department awards the contract, the award is made to the lowest responsible bidder within the number of days shown in the following table:

**Contract Award Period**

Days	Project estimated cost shown on the <i>Notice to Bidders</i>
30	< \$200 million
60	> \$200 million

### 31 RSSs AND SSPs

For the file name of an SSP, begin with the section number of the section of the *Standard Specifications* being revised and add an underscore, a letter category (A for approved; D for Draft; T for Tentative; C for Cancelled), and a date (3-1.04\_A12-31-10). Use the same naming convention for an RSS except add *RSS\_* before the section number (RSS\_3-1.04\_A12-31-10).

An RSS coordinator combines RSSs in the "Revised Standard Specifications." An RSS is placed under a heading matching the title of the section of the *Standard Specifications* being revised and such that the section numbers are in numerical order. The RSS coordinator creates the RSS section heading.

SSPs have 2 formats, combined and individual, depending on the number, length, and complexity of the SSPs revising a main section of the *Standard Specifications*.

An SSP assembler places individual SSPs after a lead SSP that includes a heading matching the title of the section of the *Standard Specifications* being revised. Combined SSPs include a heading matching the title of the *Standard Specifications* being revised.

An SSP looks the same as an RSS except that the SSP includes instructions. In a final contract document the special provisions looks the same as the revised standard specifications. The table of contents and cover sheets distinguish the 2 types of specifications.

Start an SSP with instructions for the section. Begin the section instructions with *Section <section no.>*, a period, and a space. Include instructions that indicate when the SSP is to be used. Do not include design guidance. Do not use "for a project" or similar wording. For example, say "Use for a bridge deck drainage system," not "Use for a project with a bridge deck drainage system." Place a blank line before and a blank line after the section instructions. Use the style *Instructions* for the blank lines. Add one of the introductions shown in the following table. Add the revision. Precede a paragraph with a paragraph instruction if needed. If paragraph instructions are included, number the paragraphs with 1 as the 1st paragraph following the introduction.

Start an RSS with one of the following introductions.

**RSS and SSP Introductions**

To	Write
Add text to an existing section	Add to section <section no>:
Delete a section	Delete section <section no.>.
Delete a paragraph	Delete the <ordinal number of paragraph> paragraph of section <section no.>.
Replace standard specification section	Replace section <section no.> with:
Replace a paragraph within a section	Replace <ordinal number of paragraph> paragraph of section <section no.> with:

**NOTES:**

Use the style *Heading 1 No TOC* for the introduction.

Interpolate guidance to cover your revision.

These introductions are needed to avoid discrepancies. From section 5 of the *Standard Specifications*: "A component in one Contract document applies as if appearing in each." Do not rely on governing ranking of contract parts to sort out conflicting clauses.

Minimize revisions. If 1 sentence in a multiple-sentence paragraph is being revised, revise only the 1 sentence. If multiple sentences are being revised, revise either the individual sentences or the whole paragraph depending on the number of revisions and sentence and paragraph structure.

#### **RSS Section Heading Example**

Normal	¶	
Heading 1 No TOC	■	*****¶
Normal	¶	
Heading 1 (12 pt)	■	<b>3--CONTRACT AWARD AND EXECUTION¶</b>
Normal	¶	
.. .	—	



## RSS Example

Normal

¶

Header

▪

Header

▪

Header

▪

Header

▪

Heading 1 No TOC

▪

Normal

Replace the 2nd paragraph of section 3.1.02 with:¶

If the Department awards the contract, the award is made to the lowest responsible bidder within the number of days shown in the following table:¶

Contract Award Periods¶		¶
Days¶	Project estimated cost shown in the <i>Notice to Bidders</i> ¶	¶
30¶	< \$250 million¶	¶
60¶	≥ \$250 million¶	¶

Normal

¶

RSS 3.1.02\_A01.09.11¶

Page 1 of 1¶

¶

¶

NOTE: The header shown will not be included in the combined RSS. It is for routing and submittal purposes only.

### Lead SSP Example

Normal	¶		
Header	▪		3_A12-31-10¶
Header	▪		Page 1 of 1¶
Header	▪		¶
Header	▪		¶
Instructions	▪	¶	
Instructions	▪	<u>Section 3. Use if any section 3 SSPs are included.</u> ¶	
Instructions	▪	¶	
Heading 1 No TOC	▪	AA¶	
Normal	¶		
Heading 1 (12 pt)	▪	3--CONTRACT AWARD AND EXECUTION¶	
Instructions	▪	¶	
Instructions	▪	Add SSPs here.¶	

## Individual SSP Example

Normal	¶	
Header	▪	3-1.04_A12-31-10¶
Header	▪	Page 1 of 1¶
Header	▪	¶
Header	▪	¶
Instructions	▪	¶
Instructions	▪	<del>Section 3.1.04. Use for (1) a contract less than \$200 million with a 60 day award period, (2) an informal bid contract, or (3) a same day award contract.¶</del>
Instructions	▪	¶
Heading 1 No TOC	▪	<b>Replace the 2nd paragraph of section 3.1.04 with:¶</b>
Instructions	▪	<b><del>1. Use for a contract less than \$200 million with a 60 day award period,¶</del></b>
Normal		If the Department awards the Contract, the award is made to the lowest responsible bidder within 60 days.¶
Instructions	▪	<b><del>2. Use for an informal bid contract.¶</del></b>
Normal		If the Department awards the Contract, the award is made to the lowest responsible bidder within 10 days.¶
Instructions	▪	<b><del>3-5. Use for a same day award contract.¶</del></b>
Instructions	▪	<b><del>3¶</del></b>
Normal		If the Department awards the Contract, the award is made to the lowest responsible bidder the same day as bid opening.¶
Instructions	▪	<b><del>4¶</del></b>
Normal		Have a representative available the day and location of the bid opening to accept the awarded contract.¶
Instructions	▪	<b><del>5¶</del></b>
Normal		If the lowest responsible bidder does not have a representative available to accept the contract award, the Department may award the contract to the next lowest responsible bidder who has a representative available to accept the contract award.¶

## Combined SSP Example

Normal	¶		
Header	▪		3_A12.31.10¶
Header	▪		Page:1 of 1¶
Header	▪		¶
Header	▪		¶
Instructions	▪	¶	
Instructions	▪	Section 3. Use if any of the section instructions in this SSP apply.¶	
Instructions	▪	¶	
Heading 1 No TOC	▪	AA¶	
Normal	¶		
Heading 1 (12 pt)	▪	3-CONTRACT AWARD AND EXECUTION¶	
Normal	¶		
Instructions	▪	¶	
Instructions	▪	Section 3-1.04. Use for (1) a contract less than \$200 million with a 60-day award period, (2) an informal bid contract, or (3) a same-day award contract.¶	
Instructions	▪	¶	
Heading 1 No TOC	▪	Replace the 2nd paragraph of section 3-1.04 with:¶	
Instructions	▪	1. Use for a contract less than \$200 million with a 60-day award period.¶	
Normal		If the Department awards the Contract, the award is made to the lowest responsible bidder within 60 days.¶	
Instructions	▪	2. Use for an informal bid contract.¶	
Normal		If the Department awards the Contract, the award is made to the lowest responsible bidder within 10 days.¶	
Instructions	▪	3-5. Use for a same-day award contract.¶	
Instructions	▪	3¶	
Normal		If the Department awards the Contract, the award is made to the lowest responsible bidder the same day as bid opening.¶	
Instructions	▪	4¶	
Normal		Have a representative available the day and location of the bid opening to accept the awarded contract.¶	
Instructions	▪	5¶	
Normal		If the lowest responsible bidder does not have a representative available to accept the contract award, the Department may award the contract to the next lowest responsible bidder who has a representative available to accept the contract award.¶	
Instructions	▪	¶	
Instructions	▪	Section 3-1.13. Use for a same-day award contract.¶	
Instructions	▪	¶	
Heading 1 No TOC	▪	Add to section 3-1.13:¶	
Normal		The Department encourages you to execute the contract the same day the contract is awarded. The Department tries to approve the contract the same day it receives the executed Contract documents.¶	

For an NSSP revising a section of the *Standard Specifications*, follow the guidance for an SSP. For an NSSP not revising a section of the *Standard Specifications*, use the 50th 2nd-level heading or beyond for the file name. For example, an NSSP for frogs would be numbered 14-6.50. An NSSP for snails on the same project would be numbered 14-6.51; and an NSSP for puppy dogs, 14-6.52. Examples:

**14-6.50\_N04-01-11  
NEW DB\*\***

**Add to section 14-6:**

**14-6.50 FROGS**

Section 14-6.50 includes specifications for protecting frogs.

**14-6.51\_N04-01-11  
NEW DB\*\***

**Add to section 14-6:**

**14-6.51 SNAILS**

Section 14-6.51 includes specifications for protecting snails.

**32 ORGANIZATION**

**32-1 ORGANIZATION—GENERAL**

Set up your section similar to an existing section of the same type.

Use general sections in order to execute the following general provisions:

1. A reference to a section includes the general specifications for the section.
2. The bid item descriptions set forth the specifications that apply.

Begin your section with a general section. Use the headings and contents described for the main general section in section 32-3 as necessary.

Include general and common specifications in the general section. These specifications need not apply to all sections of the section; the more specific sections will govern over the specifications in the general section. These specifications may be of the general, material, construction, or payment categories.

The following are terms used for section organization:

**main section:** Base section (for example: 15, 52).

**1st-level section:** 1st section level of a main section; uses Heading 1 style; examples: 15-1, 15-2.

**2nd-level section:** 1st section level under a 1st-level section or 1st section level under a main section if no 1st-level section exists; uses Heading 2 style; for example: 15-1.01, 75-1.03.

**3rd-level section:** 1st section level under a 2nd-level section; uses Heading 3 style; examples: 15-2.02A, 83-1.02I.

**4th-level section:** 1st section level under a 3rd-level section; uses Heading 4 style; examples: 51-1.12F(3), 83-1.02G(2).

**hard heading:** Heading required in each 1st-level section whether it is used or not.

**soft heading:** Heading included as required.

Write *Not Used* under hard headings under which no specifications are included.

Write *Reserved* under soft headings under which no specifications are included.

To allow for expansion of a main section (with either SSPs or RSSs), add a 1st-level section heading if you plan on adding new sections that do not fit clearly in the existing sections of the main section.

To preserve the SSP numbering system, add reserved sections where you anticipate growth.

## **32-2 ORGANIZATION—SECTION HEADINGS**

Sections 32-2 applies to new relatively stand-alone sections of the *Standard Specifications* and SSPs. For other specifications, match the format of the existing or surrounding sections.

### **XX-X.01 GENERAL**

#### **XX-X.01A Summary**

#### **XX-X.01B Definitions**

#### **XX-X.01C Submittals**

#### **XX-X.01D Quality Control and Assurance**

### **XX-X.02 MATERIALS**

### **XX-X.03 CONSTRUCTION**

### **XX-X.04 PAYMENT**

Use all of these headings in each 2nd-level section. If a section is not used, write *Not Used* under the heading.

These headings may be used for lower-level sections depending on existing section numbering.

Add 3rd- and 4th-level headings as required for clarity. Avoid using sections beyond the 4th level.

## **32-3 ORGANIZATION—SECTION CONTENTS**

Sections 32-3 applies to new relatively stand-alone sections of the *Standard Specifications* and SSPs. For other specifications, match the format of the existing or surrounding sections.

Bold text indicates headings for required sections. Nonbolded text indicates contents of the sections. For an SSP, use the outline shown, but not the numbering.

### **XX-X.01 GENERAL**

#### **XX-X.01A Summary**

Summary of section contents

Begin each summary section with:

Section <section no.> includes specifications for <description of work>.

Example:

Section xx includes specifications for removing, salvaging, abandoning, and obliterating highway facilities.

For sections that have related sections, add "general" before "specifications."

Example:

Section xx includes general specifications for constructing sound walls.

Legal references

General specifications that do not follow under the other headings

#### **XX-X.01B Definitions**

Definitions

#### **XX-X.01C Submittals**

Shop drawings

Product data

Samples

QC/QA submittals (design data, test reports, certificates, manufacturers' instructions, manufacturers' field reports, qualification statements)

Closeout submittals

## **XX-X.01D Quality Control and Assurance**

Qualifications

Regulatory requirements

Certifications

Manufacturer's field services

Preinstallation meetings

Source quality control (tests, inspection, performance verification)

Field quality control (site tests, inspection, field samples)

Warranty

Mock-ups

## **XX-X.02 MATERIALS**

Specifications for materials before they are delivered to the job site (fabrication, proportion, handling, delivery)

## **XX-X.03 CONSTRUCTION**

Specifications for how the materials are used after they are delivered to the job site. Specify in the order the element is constructed during construction.

Order-of-work specifications. Place an order-of-work specification in the specification of the item that occurs first.

## **XX-X.04 PAYMENT**

Payment clauses, including how bid items are measured for payment.

## **33 3-COLUMN CONVERSION**

Section 33 applies to the conversion of 2006 to 2010 specifications.

### **Incorporate into the *Standard Specifications*:**

1. Amendments
2. SSP clauses not peculiar to a specific project. The following are examples of special provisions to be incorporated into the *Standard Specifications*.
  - 2.1. The *Standard Specifications* has a section on bridge removal. An SSP used for all projects involving bridge removal exists. Incorporate the clauses from this SSP into the *Standard Specifications* that are non-project-specific changes to bridge removal work. (I.e., they are not specifications peculiar to the project and, by the definition of *special provisions*, should have been amendments.)
  - 2.2. Incorporate specifications with conditional instructions by converting the instructions to conditional text. If a paragraph has more than 3 conditions, consider leaving the paragraph in the SSP.

2006 paragraph instruction: Use only when no membrane seal is shown on the plans.

2010 standard specification: Where membrane seal is not shown on the plans, <*Style Guide* version of the paragraph that followed the instructions>.

2006 SSP instruction: Use in all projects receiving Federal Aid.

2010 standard specification: Section <section no.> applies to a federal-aid contract.

2006 paragraph instruction: Use for all projects in District 7.

2010 standard specification: In District 7, <specification standard to District 7 projects>.

2006 SSP instruction: Use for all projects in District 7.

2010 standard specification: Section <section no.> applies to a District 7 project.

- 2.3. If an SSP is used with another SSP, specify that the one specification complies with the other.

2006 SSP Instruction: Use with SSP <SSP no.>.

2010 standard specification: Comply with <Standard Specifications section no. of converted SSP>.

- 2.4. Do not include paragraphs that must be filled in unless one requirement is used for most jobs; in which case, include the paragraph and fill in the blank with the typical requirement and create an SSP for other requirements.

2006 instructions: Fill in the class of concrete backfill. This is normally Class 3 concrete.

2006 special provision: Concrete backfill of the types listed in the engineer's estimate encasing the steel soldier piles below the lagging shall be Class \_\_\_\_ concrete conforming to the provisions in section 90, "Portland Cement Concrete," of the Standard Specifications and these special provisions.

2010 standard specification: For concrete backfill encasing steel soldier piles below the lagging, use Class 3 concrete that complies with section 90.

2010 SSP (part):

**19-3.xyz\_D04-01-10**  
**Page 1 of 1**

**Section 19-3.xyz. Use if the designer requests a class of concrete other than Class 3.**

**Replace the 13th paragraph of section 19-3.xyz with:**

**1. Insert the class.**

For concrete backfill encasing steel soldier piles below the lagging, use Class \_\_\_\_\_ concrete that complies with section 90.

- 2.5. If a paragraph has an instruction to edit under certain situations, add the paragraph to the *Standard Specifications* and create an SSP for the edit.

2006 instructions: Edit. Check with designer on bridges over 400 feet long.

2006 special provision: D. Only one piece of equipment may be on the bridge at one time.

2010 standard specification: 4. At most 1 piece of equipment may be on the bridge at one time.

2010 SSP:

**5-1.19B(3)\_D11-08-08**  
**Page 1 of 1**

**Section 5-1.19B(3). Use if (1) a bridge with a material hauling equipment loading lane is over 400 feet long (2) if the designer allows more than 1 piece of equipment on the bridge at one time. Insert value provided by designer.**

**Replace item 4 of the 3rd paragraph of section 5-1.19B(3) with:**

**1. Insert number of pieces.**

4. At most \_\_\_\_\_ pieces of equipment may be on the bridge at one time.

3. Specifications shown on standard plans.

Fill in the 3-column template as follows:

2010 <i>Standard Specifications</i>	2006 <i>Standard Specifications</i> with amendments	2006 SSPs and standard plan notes
	<p>Step 1: Copy and paste your 2006 <i>Standard Specifications</i> section with amendments, pasting only about 15 pages in each table cell. The amendments are from S1-020 dated 08-01-08.</p> <p>Select each table greater than 4.2 inches individually; go to "Table&gt;Table Properties . . ." and convert table width to 4.2 inch maximum.</p> <p>If you move part of a section, use the heading in both locations and add "(part)" to the heading.</p>	<p>Step 4: Determine which 2006 SSPs to include in the 2010 <i>Standard Specifications</i>. Copy and paste those SSPs by matching up subject matter to Column 2.</p> <p>Select each table greater than 4.2 inches individually; go to "Table&gt;Table Properties . . ." and convert table width to 4.2 inch maximum.</p> <p>[Tip: After the insertion of SSPs make sure each cell of the 3-column document has a maximum of 20 pages.]</p>
	<p>Step 2: Replace standard specifications and amendments with any amendments dated after 08-01-08. Italicize the updated amendments.</p> <p>Add "S1-020_&lt;S1-020 date&gt;" number next to the updated amendment. If no heading exists, add it above the amendment.</p>	<p>Step 5: Analyze each paragraph of each SSP and determine which parts will be included in the 2010 <i>Standard Specifications</i>. Strike and hide the paragraphs that will not be included.</p> <p>Include instructions. (They may be converted to conditional specifications or used to fill in blanks.)</p> <p>If SSPs have similar clauses, use only one version of the clauses.</p> <p>Reduce variation. Clause x is for this situation and clause y is for that situation. Ask: Are the situations different enough that you need different clauses? If not, combine the clauses into one that covers both situations.</p>
	<p>Step 3: Delete (use red, strike and hide):</p> <ol style="list-style-type: none"> <li>1. Specifications covered by other specifications</li> <li>2. Obsolete specifications</li> </ol> <p>Add comments to explain the deletions.</p>	<p>Step 6: Delete (use red; strike and hide):</p> <ol style="list-style-type: none"> <li>1. Specifications covered by other specifications</li> <li>2. Obsolete specifications</li> </ol> <p>Add comments to explain the deletions.</p>
	<p>Step 7: Delete (use red; strike and hide) standard specifications and amendments overridden by SSP clauses that are not project specific.</p>	
		<p>Step 8: Determine which 2006 Standard Plan notes to include in the 2010 <i>Standard Specifications</i>. Move</p>



		notes here.
<p>Step 9: Rewrite in 2010 format. For 2010, section titles are not included where referencing a section. However, you will need them for cross-reference checks. Therefore, show section titles in green font as follows: space&lt;section title&gt;. [Tip: CTRL+Tab allows you to tab in table cells.]</p>		

**Copy the specifications from the 1st column into a 1-column template.**

**Use the following naming convention:**

Document type	File name	Section 75 example
3-column document	SS3_<section no.>_D<date>	SS3_75_D11-08-08.do
Final draft	SS_<section no.>_A<date>	SS_75_A11-08-08.doc

**Rewrite the remaining SSPs as follows:**

1. Combine SSPs for similar work.
2. Reduce variation as was done while rewriting of the 2010 *Standard Specifications*.
3. If you filled in a blank while rewriting of the 2010 *Standard Specifications*, include a replacement paragraph in the SSP.

**Cancel obsolete SSPs.**

**Parallel 2006 and 2010 specifications as follows:**

You may make a significant technical change to the 2010 specifications only if you make the same change to the 2006 specifications. Significant technical changes are changes that affect the end product. The 2010 specifications and these changes to the 2006 specifications will be published concurrently. Do not revise 2006s to update obsolete specifications or references. Examples:

Polycarbonate and glass widgets are specified in the 2006 specifications. Industry no longer makes glass widgets, so the end result is the Contractor using polycarbonate widgets. Specify the polycarbonate widget in the 2010s but do not update the 2006s to match. The change would make no difference at the end.

Polycarbonate and glass widgets are specified in the 2006 specifications. Industry makes both polycarbonate and glass widgets, but the Department has decided to use only polycarbonate widgets. Specify the polycarbonate widget in the 2010s and update the 2006s to match.

Do not update 2006 specifications for only style purposes. Style includes language, formatting, and organization.

## **BIBLIOGRAPHY**

Construction Specifications Institute. *The Project Resource Manual: CSI Manual of Practice*, 5th ed. McGraw-Hill, 2005.

Federal Register, "Drafting Legal Documents," <http://www.archives.gov/federal-register/write/legal-docs/index.html>.

R.S. Means Company, Inc. *Means Illustrated Construction Dictionary*, 2nd ed. Kingston, MA: R.S. Means, 2003.